

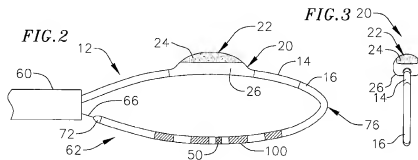
## REMARKS

### I. PRELIMINARY REMARKS

Non-elected claims 11-13, 18 and 42-44 have been canceled. Claims 17 and 21 have been amended. Claims 45 and 46 have been added. Claims 14-17, 21-30 and 37-39 remain in the application. Reexamination and reconsideration of the application, as amended, are respectfully requested.

### II. BRIEF DESCRIPTION OF AN EXEMPLARY EMBODIMENT

The present inventions, as defined by the claims, are directed to probes that may be used for therapeutic purposes. Referring to Figures 2 and 3, one exemplary probe includes a catheter 12 that is carried within a sheath 60. The catheter 12, which may be bent into a loop 62 using a pull wire 66 (Figure 2) or by connecting the catheter to distal end of the sheath 60 (Figure 14), includes a hinge 74 (Figure 13). The hinge is located within the portion of the catheter 12 that forms the apex 76 of the loop 62. An inflatable electrode 20 is supported on the catheter 12. The exemplary inflatable electrode 20 is in the form of a half-balloon with a microporous region 22.



### III. PRIOR ART REJECTIONS

#### A. The Rejections

Claims 21-26 and 39 have been rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,076,012 to Swanson ("the Swanson '012 patent"). Claims

14-16, 27-30 and 38 have been rejected under 35 U.S.C. § 103 as being unpatentable over the Swanson '012 patent. The rejections under 35 U.S.C. §§ 102 and 103 are respectfully traversed to the extent that they are applicable to the claims as amended above. Reconsideration thereof is respectfully requested.

## B. Discussion Concerning Claims 14-16 and 28

Independent claim 14 calls for a combination of elements comprising "an outer member," "an elongate body ... defining a distal region and a distal end operably connected to the distal end of the outer member, the distal region of the elongate body including a hinge portion located proximal of the distal end" and "an inflatable tissue coagulation body supported **on the elongate body distal region.**" The respective combinations defined by claims 15, 16 and 28 include, *inter alia*, the elements recited in claim 14.

Referring to Figures 25-27, the Swanson '012 patent discloses an apparatus including a catheter tube 12 and a spline element 172. "One proximal end 174 [of the spline element] is secured to the distal catheter tube end 16 [and the] other proximal end 176 slidably passes through a lumen 178 in the catheter tube 12." [Column 16, lines 57-61.] A sleeve 182, which carries electrodes 28, is secured to the spline element 172. [Column 17, lines 8-14.] The apparatus also includes a wire 184 with a cap 186 that is used to deflect the loop formed by the spline element 172. The cap 186 includes a passage 188 that allows the spline element 172 to move relative to the wire 184 and cap 186. [Note that The locations of reference numerals 186 and 188 appear to have been inadvertently reversed in Figure 26.]

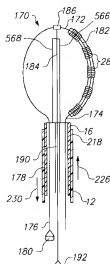


FIG. 25

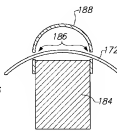


FIG. 26

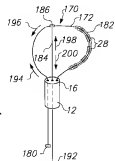


FIG. 27

The Office Action has apparently interpreted the claims in such a manner that the Swanson catheter tube 12 corresponds to the claimed "outer member," the wire 184 corresponds to the claimed "elongate body," the cap 186 corresponds to the claimed "hinge portion" of the "elongate body," and the sleeve 182 with electrodes 28 corresponds to the "coagulation body" albeit without the "inflatable" aspect. [Office Action at page 4.] Applicant respectfully submits that such an interpretation is unreasonable because it ignores various limitations in independent claim 14. For example, independent claim 14 indicates that the "coagulation body [is] supported on the elongate body distal region." The purported Swanson "coagulation body" (i.e. the sleeve 182 with electrodes 28) is clearly not supported on the purported "elongate body" (i.e. the wire 184) and, instead, is supported on the spline element 172.

Accordingly, even assuming for the sake of argument that there was some reason to substitute the inflatable tissue coagulation structure illustrated in Figures 82-85 for the sleeve 182 with electrodes 28 as was asserted in the Office Action, the combination defined by independent claim 14 would not have been realized. The rejection of claims 14-16 and 28 under 35 U.S.C. § 103 is, therefore, improper and should be reversed.

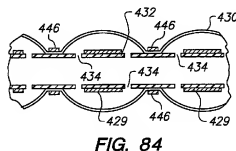
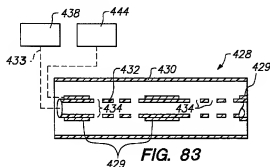
### **C. Additional Discussion Concerning Claim 16**

With respect to claim 16, the Office Action indicated that "the embodiment of figure 25 includes the coagulation body proximal to the hinge element and the electrodes (28) can be used to sense in heart tissue." [Office Action at page 4.] Applicant respectfully submits that there are two significant shortcomings associated with this interpretation of the claims. First, given that the purportedly obvious modification replaces the sleeve 182 and electrodes 28 with the inflatable structure illustrated in Figures 82-85, the electrodes 28 will not be part of the structure illustrated in Figures 25-27. Second, claim 16 requires that the "sensing element" and the "inflatable tissue coagulation body" be on ***different sides*** (i.e. one proximal side and the other distal) of the "hinge portion" and that is certainly not shown in Figure 25.

### D. Discussion Concerning Claims 17 and 39

Independent claim 17 calls for a combination of elements comprising “an outer member,” “an elongate body ... including a distal region defining a longitudinal axis and a distal end operably connected to the distal end of the outer member” and “a half-balloon tissue coagulation structure supported on the elongate body distal region and defining a **shape that is asymmetric about the longitudinal axis of the elongate body distal region in a plane perpendicular to the longitudinal axis of the elongate body distal region**” The combination defined by claim 39 includes, *inter alia*, the elements recited in claim 17.

The device illustrated in Figure 82 of the Swanson '012 patent includes an electrode structure 424 with a tubular electrode body 428 and a plurality of electrodes 429 which are mounted on the electrode body under porous material 430. The proximal end of the electrode body 428 is secured to the distal end of a catheter, and the distal end 426 is secured to the end of a sheath 442 by way of a joint 440. Referring to Figures 83 and 84, which show the porous material 430 both with and without rings 446, the “balloon” defined by the Swanson porous material 430 is **symmetric** about the longitudinal axis of the electrode structure 424 in a plane perpendicular to the longitudinal axis of the electrode structure.

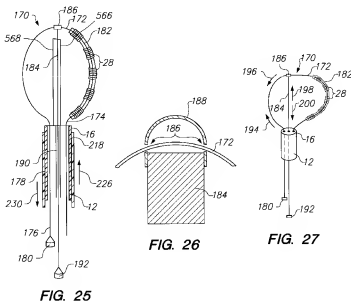


As the Swanson '012 patent fails to teach or suggest each and every element of the combination recited in independent claim 17, applicant respectfully submits that claims 17 and 39 are patentable thereover and that the rejection under 35 U.S.C. § 102 should be withdrawn.

## E. Discussion Concerning Claims 21-30

Independent claim 21 calls for a combination of elements comprising “a tissue coagulation body” and “an elongate body, **defining a distal region that supports the tissue coagulation body** ... [and] including a hinge portion defining the apex of the loop formed by distal region, **the hinge portion having a flexibility that is greater in a bending direction than the flexibility of the portions of the elongate body that are immediately proximal and distal thereto** and that allows the apex of the loop to be inserted into a pulmonary vein to such an extent that the tissue coagulation body will be substantially aligned with the pulmonary vein ostium.” The combinations defined by claims 22-30 include, *inter alia*, the elements recited in claim 21.

Referring to Figures 25-27 of the Swanson '012 patent, the Office Action has apparently interpreted the claims in such a manner that the Swanson wire 184 corresponds to the claimed “elongate body” and the cap 186 on the end of the wire, which includes a passage 188<sup>1</sup> for the spline element 172, corresponds to the claimed “hinge portion.” [Office Action at page 3.] Applicant respectfully submits that such an interpretation is unreasonable because it ignores various limitations in independent claim 21. For example, the distal region of the purported Swanson “elongate body” (i.e. the wire 184) does not support the only structure which could be considered to be a “tissue coagulation body” (i.e. the sleeve 182 with electrodes 28). It should also be noted that it is impossible for the purported “hinge portion”



<sup>1</sup> The locations of reference numerals 186 and 188 appear to have been inadvertently reversed in Figure 26.

(i.e. the cap 186) to be more flexible than the portion of the purported “elongate body” (i.e. the wire 184) that is distal of the purported “hinge portion” because ***no portion*** of the purported “elongate body” (i.e. the wire 184) ***is distal*** of the purported “hinge portion” (i.e. the cap 186).

As the Swanson '012 patent fails to teach or suggest each and every element of the combination recited in independent claim 21, the rejection of claims 21-26 under 35 U.S.C. § 102 should be withdrawn. Moreover, as there is no reason to modify the teachings of the Swanson '012 patent in such a manner that the invention defined by claim 21 would be realized, the rejection of claims 27-30 under 35 U.S.C. § 103 should also be withdrawn.

#### **F. Additional Discussion Concerning Claim 26**

With respect to claim 26, the Office Action indicated that “the embodiment of figure 25 includes the coagulation body proximal to the hinge element and the electrodes (28) can be used to sense in heart tissue.” [Office Action at page 3.] Applicant respectfully submits that there are a significant shortcoming associated with this interpretation of the claims. In particular, claim 26 requires that the “sensing element” and the “tissue coagulation body” be on ***different sides*** (i.e. one proximal side and the other distal) of the “hinge portion” and that is certainly not shown in Figure 25.

#### **IV. NEWLY PRESENTED CLAIMS 45 AND 46**

Newly presented claim 45 depends from independent claim 14 and, accordingly, is patentable for at least the same reasons as claim 14.

Newly presented claim 46 depends from independent claim 17 and, accordingly, is patentable for at least the same reasons as claim 17.

**V. CLOSING REMARKS**

In view of the foregoing, it is respectfully submitted that the claims in the application are in condition for allowance. Reexamination and reconsideration of the application, as amended, are respectfully requested. Allowance of the claims at an early date is courteously solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is respectfully requested to call applicant's undersigned representative at (310) 563-1458 to discuss the steps necessary for placing the application in condition for allowance.

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 50-0638. Should such fees be associated with an extension of time, applicant respectfully requests that this paper be considered a petition therefor.

Respectfully submitted,

1/16/2008  
Date

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